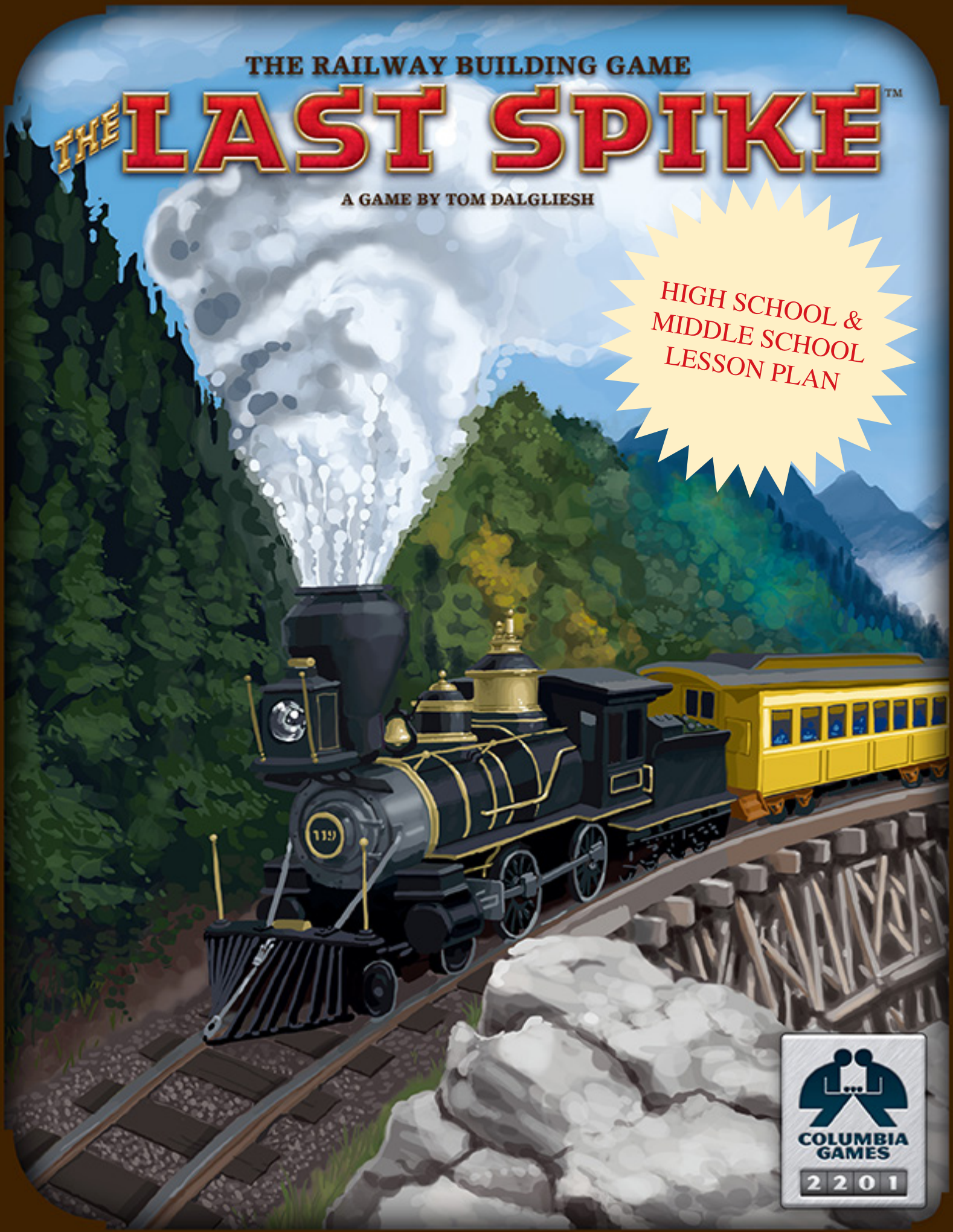
THE RAILWAY BUILDING GAME

THE LAST SPIKE™

A GAME BY TOM DALGLIESH

HIGH SCHOOL & MIDDLE SCHOOL LESSON PLAN



COLUMBIA GAMES

2201

High School / Middle School Lesson Plan
and
Teaching Resources

To accompany
The Last Spike™

A historical boardgame
by Tom Dalgliesh / Columbia Games, Inc



Created by:
Jennifer Deshaies, M.i.T, N.B.C.T

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EDUCATIONAL STANDARDS

This lesson plan meets the following National Council for the Social Studies (NCSS) Curriculum Standards for Social Studies:

Standard II, Time, Continuity, & Change

Social studies programs should include experiences that provide for the study of the ways human beings view themselves in and over time, so that the learner can:

a. demonstrate an understanding that different people may describe the same event or situation in diverse ways, citing reasons for the differences in views;

b. demonstrate an ability to use correctly vocabulary associated with time such as past, present, future, and long ago; read and construct simple timelines; identify examples of change; and recognize examples of cause and effect relationships;

c. compare and contrast different stories or accounts about past events, people, places, or situations, identifying how they contribute to our understanding of the past;

d. identify and use various sources for reconstructing the past, such as documents, letters, diaries, maps, textbooks, photos, and others;

e. demonstrate an understanding that people in different times and places view the world differently;

Standard III, People, Places, & Environments

Social studies programs should include experiences that provide for the study of people, places, and environments, so that the learner can:

a. construct and use mental maps of locales, regions, and the world that demonstrate understanding of relative location, direction, size, and shape;

b. interpret, use, and distinguish various representations of the earth, such as maps, globes, and photographs;

e. locate and distinguish among varying landforms and geographic features, such as mountains, plateaus, islands, and oceans;

h. examine the interaction of human beings and their physical environment, the use of land, building of cities, and ecosystem changes in selected locales and regions;

Standard IV, Individual Development & Identity

Social studies programs should include experiences that provide for the study of individual development and identity, so that the learner can:

h. work independently and cooperatively to accomplish goals.

Standard VI. Power, Authority, & Governance

Social studies programs should include experiences that provide for the study of how people create and change structures of power, authority, and governance, so that the learner can:

g. explore the role of technology in communications, transportation, information-processing, weapons development, or other areas as it contributes to or helps resolve conflicts;

Standard VII, Production, Distribution, & Consumption

Social studies programs should include experiences that provide for the study of how people organize for the production, distribution, and consumption of goods and services, so that the learner can:

a. give examples that show how scarcity and choice govern our economic decisions;

e. describe how we depend upon workers with specialized jobs and the ways in which they contribute to the productions and exchange of goods and services;

h. describe the relationship of price to supply and demand;

Standard VIII, Science, Technology, & Society

Social studies programs should include experiences that provide for the study of relationships among science, technology, and society, so that the learner can:

a. identify and describe examples in which science and technology have changed the lives of people, such as in homemaking, childcare, work, transportation, and communication;

b. identify and describe examples in which science and technology have led to changes in the physical environment, such as the building of dams and levees, offshore oil drilling, medicine from rain forests, and loss of rain forests due to extraction of resources or alternative uses;

Standard IX, Global Connections

Social studies programs should include experiences that provide for the study of global connections and independence, so that the learner can examine the effects of changing technologies on the global community.

This curriculum can be used to meet the following Washington State Classroom Based Assessments (CBA):

Middle School: Geography: People on the Move

High School: History: Technology through the Ages

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Feedback

We welcome feedback about this lesson plan and would be pleased to read your students' work, e-mail us at:
orders@columbiagames.com

UPPER DIVISION LESSON PLAN

HIGH SCHOOL OR MIDDLE SCHOOL

Purpose: Students will learn about expansion of the Transcontinental Railroad through reading primary source material, watching a documentary and playing a board game.

Objective: By the end of the unit, students should be able to identify the impact of the Transcontinental Railroad on migration, immigration and commerce.

Materials:

The Last Spike Boardgame from Columbia Games, Inc. (approximately 1 game per 6 students)

Student Handouts #1- 4 (provided)

America: The Story of Us Episode 6: Heartland (available on Amazon.com)

Primary Source Documents #1 – 3 (provided)

Post Assessment Questions & Review (provided)

Essay options (provided)

Time Frame: 5 days @75 minutes
1 day @ 40 minutes or homework

SCAN CODE TO DOWNLOAD PDF (no login required)

HOMESCHOOL ADAPTATION

In the home or a small class (6 or fewer students) the following adaptations to the procedure are recommended.

Day 1: unchanged.

Day 2: the entire group plays *The Last Spike* and reflects on Handout #3.

Day 3: research the Transcontinental Railroad using Handout #4 and primary Source #1. Record what is learned on Handout #2 "Effects of the Transcontinental Railroad" started on Day 1.

Day 4: repeat day 2.

Day 5: reading and research the Transcontinental Railroad using primary sources #2 & #3. Record what is learned on the "Effects of the Transcontinental Railroad" Handout #2.

Day 6: unchanged.

PROCEDURE

Day 1 (~75 minutes)

As a group, create a KWL chart about the Transcontinental Railroad or have students brainstorm their own list separately using Student Handout #1.

Students watch the video, "*America the Story of Us*" *Episode 6*. After the film, students fill in Student Handout #2, "Effects of the Transcontinental Railroad" student handout to identify the ways the Transcontinental Railroad affected migration, immigration and commerce.

Students will add to this sheet as the unit progresses.

Day 2 (~75 minutes)

Divide the class into two groups. The first group of students plays *The Last Spike* boardgame. Explain the game rules (page 24). After the game, students reflect on the Student Handout #3, "Playing *The Last Spike*".

Students in the second group read and research the Transcontinental Railroad using Handout #4 and the primary Source #1 materials. They should record what they have learned on Student Handout #2 "Effects of the Transcontinental Railroad" started on Day 1.

Day 3 (~75 minutes) Repeat day 2, switching groups.

Day 4 (~75 minutes)

Divide the class into two ***new*** groups*. The first group of students plays the game (rules on page 24) and then reflects on the student handout, "Playing *The Last Spike*".

The second group will be reading and researching the Transcontinental Railroad using primary sources #2 & #3. They should record what they have learned on the "Effects of the Transcontinental Railroad" Handout #2.

Day 5 (~75 minutes) Repeat day 4, switching groups.

Day 6 (~40 minutes in class or as homework)

Using Handout #1 KWL chart(s) from Day 1, have students fill in what they have learned. Assign post assessment questions or essay options.

** Dividing the class anew ensures that students will play with different classmates.*

ASSESSMENT

• Pre-Assessment: As a group or as individuals, complete a KWL chart to assess students' knowledge about the Transcontinental Railroad.

• Post-Assessment: Using the KWL chart(s) from the first day, have students fill in what they have learned.

• Post-Assessment questions or essay options or use of Washington State Classroom Based Assessments.

This curriculum can be used to meet the following Washington State Classroom Based Assessments (CBA):

Middle School: Geography: People on the Move

High School: History: Technology through the Ages

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NAME:_____ DATE:_____
PERIOD:_____ SCORE:_____

HANDOUT #1

TRANSCONTINENTAL RAILROAD KWL CHART

K What I know about the Transcontinental Railroad	W What I want to know about theTranscontinental Railroad	L What I learned about the Transcontinental Railroad

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NAME:_____ DATE:_____
PERIOD:_____ SCORE:_____

HANDOUT #2

EFFECTS OF THE TRANSCONTINENTAL RAILROAD

Migration	
Immigration	
Commerce	

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NAME:_____ DATE:_____
PERIOD:_____ SCORE:_____

HANDOUT #3

PLAYING THE LAST SPIKE

Game #1 Did you use a specific strategy? Did it work? What did you learn? What would you do differently next time?	
Game #2 Did you use a specific strategy? Did it work? What did you learn? What would you do differently next time?	

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NAME:_____ DATE:_____
PERIOD:_____ SCORE:_____

HANDOUT #4

BUILDING THE RAILROAD

Along with the development of the atomic bomb, the digging of the Panama Canal, and landing the first men on the moon, the construction of a transcontinental railroad was one of the United States' greatest technological achievements. Railroad track had to be laid over 2,000 miles of rugged terrain, including mountains of solid granite.

Before the transcontinental railroad was completed, travel overland by stagecoach cost $1,000, took five or six months, and involved crossing rugged mountains and arid desert. The alternatives were to travel by sea around the tip of South America, a distance of 18,000 miles; or to cross the Isthmus of Panama, then travel north by ship to California. Each route took months and was dangerous and expensive. The transcontinental railroad would make it possible to complete the trip in five days at a cost of $150 for a first-class sleeper.

The first spikes were driven in 1863, in the midst of the Civil War. Two companies competed to lay as much track as possible. The Central Pacific built east from Sacramento, Calif., while the Union Pacific built west from Omaha, Neb. The government gave the companies rights of way of 200 feet on each side of the track and financial aid of $16,000 to $48,000 for each mile of track laid.

At first, the Union Pacific, which had flat terrain, raced ahead. The Central Pacific had to run train track through the Sierra Nevada Mountains. Working three shifts around the clock, Chinese immigrants hand drilled holes into which they packed black powder and later nitroglycerine. The progress in the tunnels through the mountains was agonizingly slow, an average of a foot a day.

Stung by the Union Pacific's record of eight miles of track laid in a single day, the Central Pacific concocted a plan to lay 10 miles in a day. Eight Irish tracklayers put down 3,520 rails, while other workers laid 25,800 ties and drove 28,160 spikes in a single day. On May 10, 1869, at Promontory Summit, Utah, a golden spike was hammered into the final tie.

The transcontinental railroad was built in six years almost entirely by hand. Workers drove spikes into mountains, filled the holes with black powder, and blasted through the rock inch by inch. Handcarts moved the drift from cuts to fills. Bridges, including one 700 feet long and 126 feet in the air, had to be constructed to ford streams. Thousands of workers, including Irish and German immigrants, former Union and Confederate soldiers, freed slaves, and especially Chinese immigrants played a part in the construction. Chinese laborers first went to work for the Central Pacific as it began crossing California's Sierra Nevada Mountains in 1865. At one point, 8,000 of the 10,000 men toiling for the Central Pacific were Chinese. Chinese workers were sometimes lowered in hand-woven reed baskets to drill blasting holes in the rock.

They placed explosives in each hole, lit the fuses, and were, hopefully, pulled up before the powder was detonated. Explosions, freezing temperatures, and avalanches in the High Sierras killed hundreds. When Chinese workers struck for higher pay, a Central Pacific executive withheld their food supplies until they agreed to go back to work.

An English-Chinese phrase book from 1867 translated the following phrases into Chinese:

Can you get me a good boy? He wants $8 a month? He ought to be satisfied with $6.... Come at 7 every morning. Go home at 8 every night. Light the fire. Sweep the rooms. Wash the clothes. Wash the windows. Sweep the stairs. Trim the lamps. I want to cut his wages.

Many of the railroad's builders viewed the Plains Indians as obstacles to be removed. General William Tecumseh Sherman wrote in 1867: "The more we can kill this year, the less will have to be killed the next year, for the more I see of these Indians the more convinced I am that they all have to be killed or be maintained as a species of paupers."

Construction of the railroad provided many opportunities for financial chicanery, corruption, graft, and bribery. The greatest financial scandal of the 19th century grew out of the railroad's construction. The president of the Union Pacific helped found a construction company, called Credit Mobilier, which allowed investors, including several members of Congress, to grant lucrative construction contracts to themselves, while nearly bankrupting the railroad.

The railroad had profound effects on American life. New phrases entered the American vocabulary such as "time's up," "time's a wasting," and "the train is leaving the station." It also led to the division of the nation into four standard time zones. In addition, the railroads founded many of the towns on the Great Plains on land grants they were awarded by the federal government, and then sold the land to settlers.

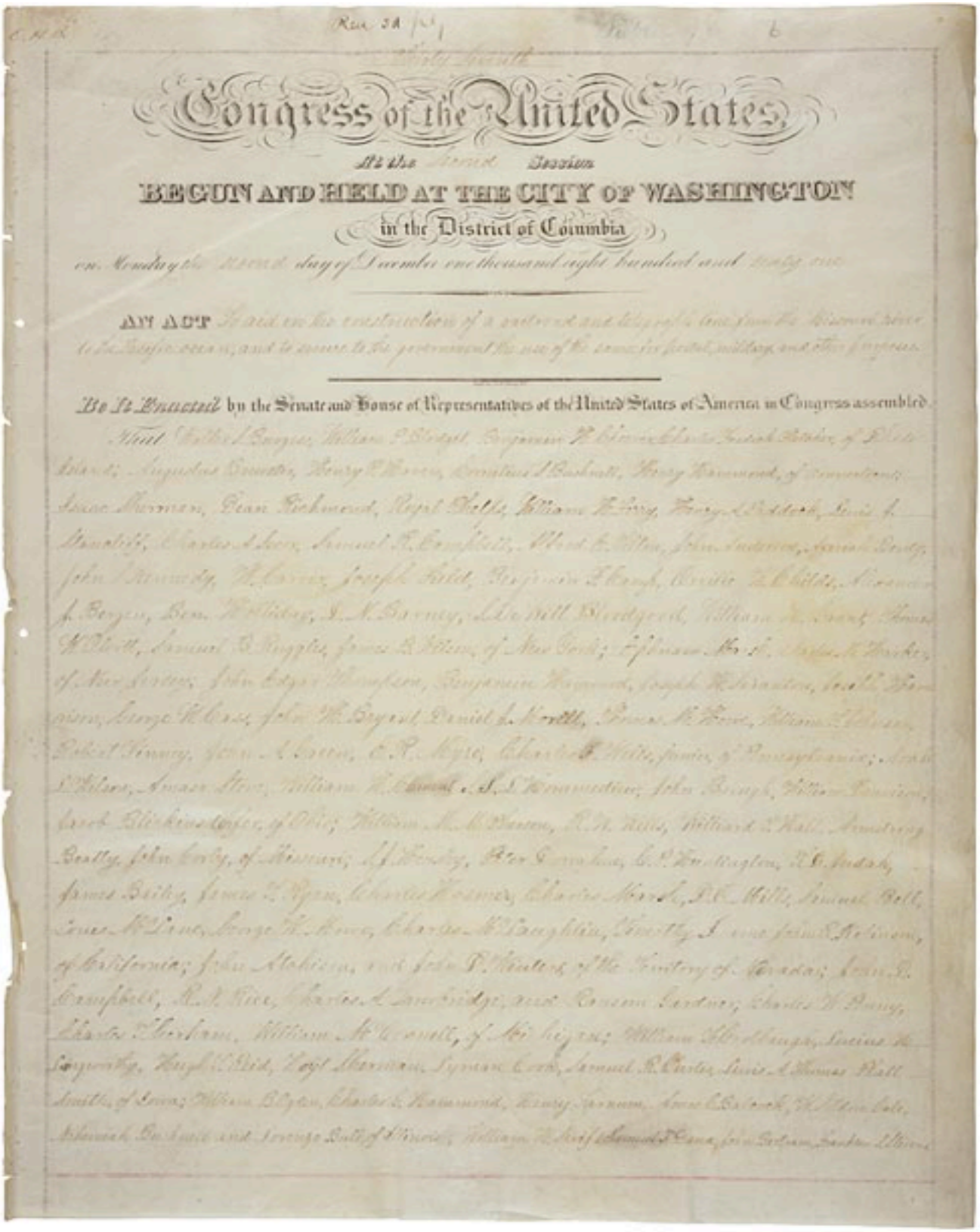
The completion of the transcontinental railroad changed the nation. Western agricultural products, coal, and minerals could move freely to the east coast. Just as the Civil War united North and South, the transcontinental railroad united East and West. Passengers and freight could reach the west coast in a matter of days instead of months at one-tenth the cost. Settlers rushed into what was previously considered a desert wasteland. The 1890 Census would declare that the American frontier had disappeared. The railroad was a major cause.

Equally important, the success of the transcontinental railroad encouraged an American faith that with money, determination, and organization anything can be accomplished. The construction of railroad demonstrated the effectiveness of complex military-like organization and assembly-line processes.

Source:
http://www.digitalhistory.uh.edu/disp_textbook_print.cfm?smtid=2&psid=3147

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PRIMARY SOURCE #1 PACIFIC RAILWAY ACT (1862)



Congress of the United States,

At the Second Session

BEGUN AND HELD AT THE CITY OF WASHINGTON

in the District of Columbia

on Monday the Second day of December one thousand eight hundred and sixty one

AN ACT To aid in the construction of a railroad and telegraph line from the Missouri River to the Pacific ocean, and to secure to the government the use of the same for postal, military, and other purposes.

Be It Enacted by the Senate and House of Representatives of the United States of America in Congress assembled

Transcribed on the following page

PRIMARY SOURCE #1 TRANSCRIBED

THE PACIFIC RAILWAY ACT

July 1, 1862 (U. S. Statutes at Large, Vol. XII, p. 489 ff.)

An Act to aid in the Construction of a Railroad and Telegraph Line from the Missouri River to the Pacific Ocean.

Be it enacted, That [names of corporators]; together with five commissioners to be appointed by the Secretary of the Interior... are hereby created and erected into a body corporate... by the name... of "The Union Pacific Railroad Company"...; and the said corporation is hereby authorized and empowered to lay out, locate, construct, furnish, maintain and enjoy a continuous railroad and telegraph... from a point on the one hundredth meridian of longitude west from Greenwich, between the south margin of the valley of the Republican River and the north margin of the valley of the Platte River, to the western boundary of Nevada Territory, upon the route and terms hereinafter provided...

Sec. 2. That the right of way through the public lands be... granted to said company for the construction of said railroad and telegraph line; and the right... is hereby given to said company to take from the public lands adjacent to the line of said road, earth, stone, timber, and other materials for the construction thereof; said right of way is granted to said railroad to the extent of two hundred feet in width on each side of said railroad when it may pass over the public lands, including all necessary grounds, for stations, buildings, workshops, and depots, machine shops, switches, side tracks, turn tables, and water stations. The United States shall extinguish as rapidly as may be the Indian titles to all lands falling under the operation of this act...

Sec. 3. That there be... granted to the said company, for the purpose of aiding in the construction of said railroad and telegraph line, and to secure the safe and speedy transportation of mails, troops, munitions of war, and public stores thereon, every alternate section of public land, designated by odd numbers, to the amount of five alternate sections per mile on each side of said railroad, on the line thereof, and within the limits of ten miles on each side of said road... Provided That all mineral lands shall be excepted from the operation of this act; but where the same shall contain timber, the timber thereon is hereby granted to said company...

Sec. 5. That for the purposes herein mentioned the Secretary of the Treasury shall... in accordance with the provisions of this act, issue to said company bonds of the United States of one thousand dollars each, payable in thirty years after date, paying six per centum per annum interest... to the amount of sixteen of said bonds per mile for each section of forty miles; and to secure the repayment to the United States... of the amount of said bonds... the issue of said bonds... shall ipso facto constitute a first mortgage on the whole line of the railroad and telegraph...

Sec. 9. That the Leavenworth, Pawnee and Western Railroad Company of Kansas are hereby authorized to construct a railroad and telegraph line... upon the same terms and conditions in all respects as are provided [for construction of the Union Pacific Railroad].... The Central Pacific Railroad Company of California are hereby authorized to construct a railroad and telegraph line from the Pacific coast... to the eastern boundaries of California, upon the same terms and conditions in all respects [as are provided for the Union Pacific Railroad].

Sec. 10 ...And the Central Pacific Railroad Company of California after completing its road across said State, is authorized to continue the construction of said railroad and telegraph through the Territories of the United States to the Missouri River... upon the terms and conditions provided in this act in relation to the Union Pacific Railroad Company, until said roads shall meet and connect...

Sec. 11. That for three hundred miles of said road most mountainous and difficult of construction, to wit: one hundred and fifty miles westerly from the eastern base of the Rocky Mountains, and one hundred and fifty miles eastwardly from the western base of the Sierra Nevada mountains... the bonds to be issued to aid in the construction thereof shall be treble the number per mile hereinbefore provided... and between the sections last named of one hundred and fifty miles each, the bonds to be issued to aid in the construction thereof shall be double the number per mile first mentioned...

Source: The National Archives
http://www.archives.gov/milestone-documents/pacific-railway-act

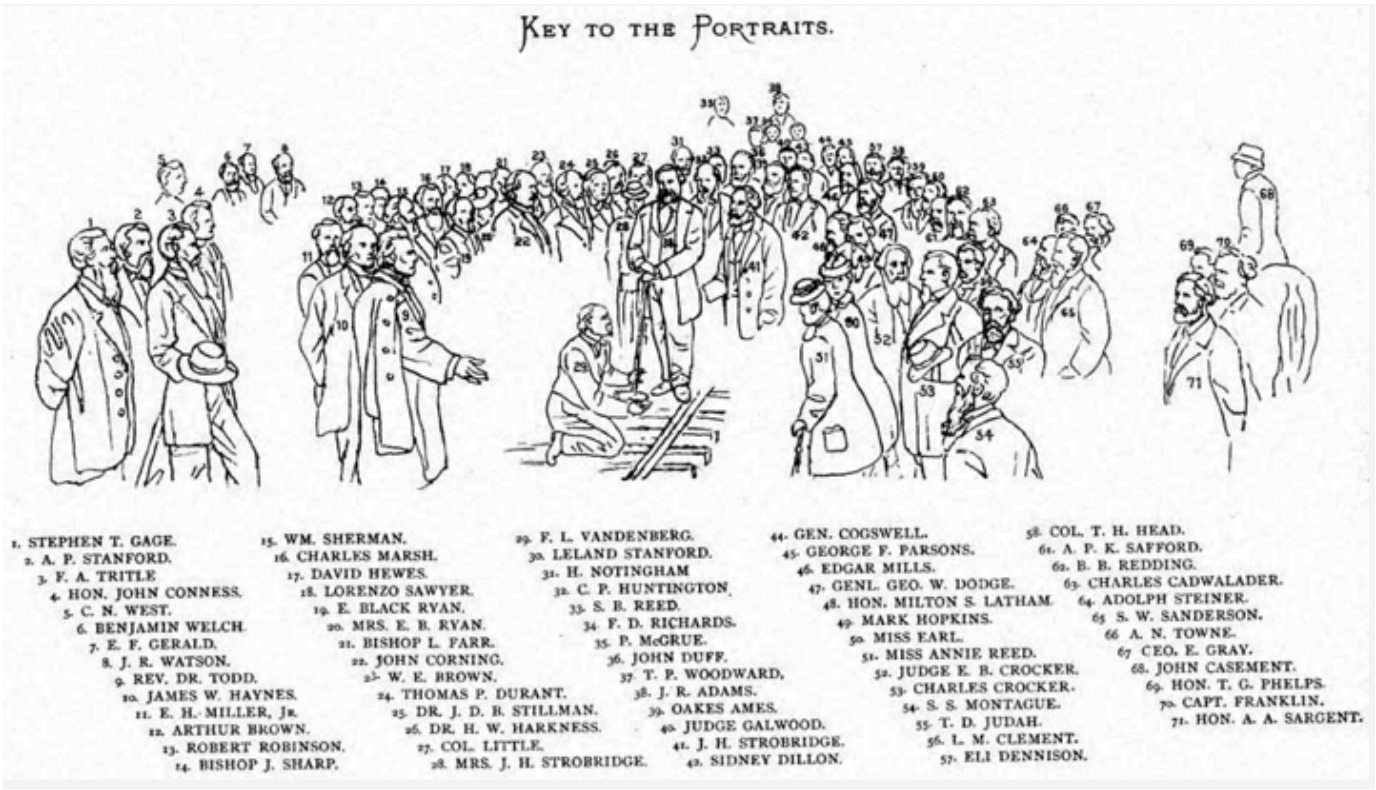
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PRIMARY SOURCE #2

THE LAST SPIKE, 1881. PAINTED BY THOMAS HILL (1829–1908)

The painting depicts the ceremony of the driving of the "Last Spike" at Promontory Summit, UT, on May 10, 1869, joining the rails of the Central Pacific Railroad and the Union Pacific Railroad.



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PRIMARY SOURCE #2

THE DRIVING OF THE LAST SPIKE

This painting commemorates the completion of the transcontinental railroad. It also shows many of the individuals involved in the project, such as J. H. Strowbridge, chief superintendent of the project; the directors of the Union Pacific and Central Pacific Railroads; senators; and other government officials.

In painting his picture, Thomas Hill has selected the situation of deepest and most serious feeling, that at the moment when the officiating clergyman was just finishing his prayer, and the electricians were about connecting the golden spike with the trans-continental telegraph line. The view is eastward, along the track of the Union Pacific Railroad, toward the horizon, bounded by the snowy summit of the Wasatch mountains. The massive figure of Governor Stanford, leaning on his hammer, arrests the eye, which, after a moment's pause, passes beyond him to the locomotive, half hidden by figures, and then on into the plains, covered with sagebrush, and suffused with the warm light of an almost cloudless afternoon. There are about four hundred figures on the canvas, seventy of which are portraits. These are placed in positions pre-arranged, and not easily varied. It was essential that they should be grouped according to official prominence, and rules of subordination, based on their relative importance to the enterprise. The subject forbade wide scope of incident.

There are introduced, however, some well-known characters of the Plains, and a few incidents indicating the contrast between the old life, and the incoming civilization. At the left is seen a stage-coach, old-fashioned, effete, its occupation gone, its slow courses shamed by the swift wheels of the flying locomotive. Beyond are a few wagons such as had at that time found their way into the desert, a wagon-train that had left the Missouri months before, and a race in progress with mustangs, in whose riders the gambling instinct was stronger than matters of national concern.

Other incidents are a strap-game, poker-playing on a barrel-head, one or two saloons improvised for the occasion, a few Indians in their native dress, a few venders of cigars, a company of soldiers that chanced to be present, all of which features help to give variety of detail, to enrich and harmonize the colors, and to relieve the more formal groupings. Minor groups are arranged in pyramids, which fall into curves and semi-circles leading up to the cluster of important personages that surround the commanding central figure.

Kneeling at the feet of Governor Stanford is F. L. Vandenburg, the chief electrician of the occasion, who is adjusting the wire which leads off through the crowd to the telegraph pole on the right. At his left is J. H. Strowbridge, general superintendent of the work of construction. The chief men of the Central Pacific railroad, C. P. Huntington, Mark Hopkins, E. B. Crocker, Charles Crocker, T. D. Judah, are all represented in characteristic attitudes and with features accurately portrayed. Near Governor Stanford are the President and Directors of the Union Pacific, Oakes Ames, Sidney Dillon, Dr. [Thomas C.] Durant, and John Duff. Hon. A. A. Sargent, who played so important and honorable a part in the legislation that made the building of the road possible, is shown by an admirable portrait at the right. Behind him is Hon. T. G. Phelps, his colleague in Congress while the Pacific Railroad legislation was taking shape, and its friend throughout.

Source: CPRR.org. "The Last Spike" by Thomas Hill, http://cprr.org/Museum/Last_Spike.html

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PRIMARY SOURCE #3

NEWSPAPER ARTICLE:

San Francisco News Letter and California Advertiser, February 12, 1881 article about Thomas Hill's "Last Spike" painting

HILL'S "LAST SPIKE"—HISTORICAL INACCURACIES — HUMORS AND MINOR INCIDENTS

Thomas Hill's "Last Spike" has been attracting its crowds of curious visitors for the last two weeks. It might continue to draw equally well for the coming fortnight, did not inexorable fate, which directs all such important matters, and the desire of the Solons of Sacramento to gaze upon its beauties, render it necessary to fold the broad canvas, and express it, with its group of railroad magnates, into the midst of the flooded district.

We would be loth to say that Mr. Hill has been negligent in the gathering of historic material. As a general thing, he has been wonderfully accurate in his collecting of important facts, and has shown marvelous taste and skill in translating them into color and form. A few things, however, have escaped his attention, and as they are personal to ourselves we cannot forbear to mention them. We alluded last week to one case of forgetfulness in that he had not given to Frederick Marriott the credit of having presented the last spike. We now wish to remind the public of a circumstance of even greater moment, which, though remembered by some, has, during an unusually busy decade, been effaced from the memories of many by Time's remorseless fingers, to wit: that from Mr. Marriott's lips fell the words of the prayer that immediately preceded the three taps of the silver hammer on the last spike.

We would very much regret to claim any honor that is not our own, but we do not hesitate to state that the accounts of the presence and official interference of the Rev. Dr. Todd on this occasion are as mythical as that gentleman's literary achievements. It was to give to the occasion an added solemnity that, at the suggestion of the real chaplain, the nearest telegraph pole was arranged in the form of a cross, and that the Hon. A. A. Sargent was painted with a prayer book in his hand, which he afterwards clapped into his pocket that it might not embarrass his erect and manly attitude. There is nothing, we may observe in passing, more important than to keep history and romance apart in art a well as literature.

We have already described with critical fidelity the salient points of the painting, but new features strike the observer at every visit. Close inspection of the locality at the left, where stimulants are retailed, reveals the word "saloon," done in the highest style of pioneer sign-board art. The disconsolate individual in light clothing, who in irreverently neglecting the prayer of Chaplain Marriott, has been beguiled by the sportive Bedouin of the desert into a losing fight with the form of the "tiger" called the strap game, takes so little interest in the subsequent proceedings that he does not even care for a cigar, pressed upon him by the nut-brown squaw, whose desire for gain has been cultivated to a high degree of refinement by contact with the whites.

The gold spike was a massive bauble of bullion, worth four hundred dollars, and it was known at the time that effort would be made by lawless men of the Plains to get possession of it on account of its intrinsic worth. These attempts were, fortunately, thwarted by the watchfulness of the police, and by the thoughtfulness of Governor Stanford, who attached to it a microscopic wire, after the manner of shrewd urchins who, on the first of April, are wont to expose in plain view on the sidewalk packages ostensibly precious, which through the agency of a surreptitious cord, glide into an adjacent area the moment the avaricious pedestrian stoops to examine them. Of course this is comparing great things with small, but we follow the essential modes of the critic and logician. Several groups of thieving conspirators are seen in close conversation in different parts of the canvas, and two Indians, who distinctly remember their waylaying overland stagecoaches, and their tying now and then a pony expressman to a tree for a little harmless tomahawk practice, have their heads together and are evidently plotting the rape of the spike, which means to them unlimited whisky and tobacco, and infinitesimal sentiment.

Thus far the great canvas has escaped the serious accidents to which such valuable works of art are liable. It has not, however, been free from danger. One day last week the reflector escaped from its moorings near the ceiling, and swooped toward the canvas like a huge hawk. Or bat, or eagle, bent on destruction. First it seems to bode malicious mischief to Governor Stanford; then hovering on the right, it threatened Charles Crocker's capacious brain, afterward approaching his more capacious stomach like the sword of a Japanese official about to commit hari-kari. After this, taking a turn to the left, it attempted to behead the historically inaccurate clergyman, and finally ended its alarming gyrations by penetrating the skull of the Indian cigar-seller, and clipping off the nose of the gambler standing near her. Mr. Hill, who is not unskilled in surgery of this kind, quietly repaired damages, and the public was no wiser.

The picture, in which we have taken so deep an interest, will go to Sacramento on Tuesday, and on Wednesday evening be exhibited in the Assembly chamber at Governor Perkins' reception. It is certain to be admired, but whether in these days of freshet, debris and detritus the sage legislators will do so wise a thing as to make an appropriation to purchase it and give the State Capitol a brilliant and suitable ornament is at yet uncertain. But even an invitation to exhibit it, signed by the Governor and chief officers of the State, is a worthy compliment to a true gentlemen and admirable artist.

Source: Hill's "Last Spike"
http://www.sfmuseum.org/hist11/hillslastspike.html

NAME:_____ DATE:_____
PERIOD:_____ SCORE:_____

QUESTIONS AND REVIEW

PRIMARY SOURCE #1 PACIFIC RAILWAY ACT

1. WHEN WAS THE PACIFIC RAILWAY ACT SIGNED?

2. WHAT WAS THE NAME OF THE RAILROAD COMPANY THAT THE ACT FORMED?

3. WHAT WAS TO BE CONSTRUCTED ALONGSIDE THE RAILROAD?

4. HOW DID THIS ACT AFFECT THE LAND THE RAILROAD WOULD RUN THROUGH?

5. HOW WAS THE RAILROAD PAID FOR?

6. WHAT OTHER COMPANIES WERE GIVEN AUTHORIZATION FOR THE CONSTRUCTION OF RAILROADS AND TELEGRAPH LINES THROUGH THIS ACT?

7. ACCORDING THE ACT, WHAT AREAS WERE GOING TO BE THE MOST DIFFICULT FOR CONSTRUCTION?

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NAME:_____ DATE:_____
PERIOD:_____ SCORE:_____

QUESTIONS AND REVIEW

PRIMARY SOURCE #2 THE LAST SPIKE, PAINTING BY THOMAS HILL

1. WHAT DOES THIS PAINTING BY THOMAS HILL CONVEY?

2. WHAT ELEMENTS OF THE PAINTING REPRESENT LIFE BEFORE THE RAILROAD?

3. ACCORDING TO THIS PAINTING, WHO WERE THE MOST IMPORTANT PEOPLE AT THIS EVENT?

   HOW DO WE KNOW?

4. WHAT ARE THREE THINGS YOU NOTICE ABOUT THIS PAINTING?

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NAME:_____ DATE:_____
PERIOD:_____ SCORE:_____

QUESTIONS AND REVIEW

PRIMARY SOURCE #3 SAN FRANCISCO NEWSPAPER ARTICLE

1. ACCORDING TO THE SAN FRANCISCO NEWS LETTER AND CALIFORNIA ADVERTISER, WHAT ARE TWO THINGS THAT ARE NOT HISTORICALLY ACCURATE ABOUT THE PAINTING?

2. HOW DID THE LAST SPIKE GET PLACED?

3. HOW MUCH WAS THE GOLDEN LAST SPIKE WORTH?

   HOW MUCH WOULD IT BE IN TODAY'S CURRENCY?

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NAME:_____ DATE:_____
PERIOD:_____ SCORE:_____

QUESTIONS AND REVIEW

HANDOUT #4

1. WHY IS THE CONSTRUCTION OF THE TRANSCONTINENTAL RAILROAD ARGUABLY ONE OF THE UNITED STATES' GREATEST TECHNOLOGICAL ACHIEVEMENTS?

2. PRIOR TO THE TRANSCONTINENTAL RAILROAD, HOW DID PEOPLE HAVE TO CROSS THE COUNTRY?

3. WHERE WAS THE GOLDEN SPIKE HAMMERED INTO THE FINAL TIE?

4. HOW LONG DID IT TAKE TO BUILD THE TRANSCONTINENTAL RAILROAD?

5. HOW WERE PLAINS INDIANS VIEWED BY THE RAILROAD'S BUILDERS?

6. WRITE A PARAGRAPH EXPLAINING HOW THE RAILROAD HAD A PROFOUND EFFECT ON AMERICAN LIFE:

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ANSWER KEY

PRIMARY SOURCE #1 PACIFIC RAILWAY ACT

1. WHEN WAS THE PACIFIC RAILWAY ACT SIGNED?

   July 1, 1862.

2. WHAT WAS THE NAME OF THE RAILROAD COMPANY THAT THE ACT FORMED?

   The Union Pacific Railroad company.

3. WHAT WAS TO BE CONSTRUCTED ALONGSIDE THE RAILROAD?

   A telegraph line.

4. HOW DID THIS ACT AFFECT THE LAND THE RAILROAD WOULD RUN THROUGH?

   The act extinguished Indian titles to all lands in the path of the railway. The company was able to utilize five sections of land per mile, except mineral lands, and the company could use any timber on these lands.

5. HOW WAS THE RAILROAD PAID FOR?

   The Secretary of the Treasury issued $1,000 bonds to the company, payable in 30 years.

6. WHAT OTHER COMPANIES WERE GIVEN AUTHORIZATION FOR THE CONSTRUCTION OF RAILROADS AND TELEGRAPH LINES THROUGH THIS ACT?

   The Leavenworth.
   Pawnee & Western Railroad Company of Kansas.
   The Central Pacific Railroad Company of California.

7. ACCORDING THE ACT, WHAT AREAS WERE GOING TO BE THE MOST DIFFICULT FOR CONSTRUCTION?

   The 150 miles westerly from the eastern base of the Rocky Mountains and the 150 miles eastwardly from the western base of the Sierra Nevada mountains.

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ANSWER KEY

PRIMARY SOURCE #2 THE LAST SPIKE, PAINTING BY THOMAS HILL

1. WHAT DOES THIS PAINTING BY THOMAS HILL ILLUSTRATE?

   The moment when the officiating clergyman was just finishing his prayer and the railroads were about to be connected with the golden spike.

2. WHAT ELEMENTS OF THE PAINTING REPRESENT LIFE BEFORE THE RAILROAD?

   The stage-coach and wagons.
   Native Americans in native dress.

3. ACCORDING TO THIS PAINTING, WHO WERE THE MOST IMPORTANT PEOPLE PRESENT AT THIS EVENT?
   HOW DO WE KNOW?

   Governor Stanford, J.H. Strowbridge, C.P. Huntington, Mark Hopkins, E. B. Crocker, Charles Crocker, T.D. Judah, Oakes Ames, Sidney Dillon, Dr. Thomas C. Durant, John Duff, A.A. Sargent, T.G. Phelps.

   We know because they were grouped according to official prominence.

4. WHAT ARE THREE THINGS YOU NOTICE ABOUT THIS PAINTING?

   Answers vary.

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ANSWER KEY

PRIMARY SOURCE #3 SAN FRANCISCO NEWSPAPER ARTICLE

1. ACCORDING TO THE SAN FRANCISCO NEWS LETTER AND CALIFORNIA ADVERTISER, WHAT ARE TWO THINGS THAT ARE NOT HISTORICALLY ACCURATE ABOUT THE PAINTING?

   He did not give credit to Frederick Marriott for having presented the last spike.
   Reverend Dr. Todd was not present but was painted into the picture.

2. HOW DID THE LAST SPIKE GET PLACED?

   It was driven in with three taps of a silver hammer.

3. HOW MUCH WAS THE GOLDEN LAST SPIKE WORTH? HOW MUCH WOULD IT BE IN TODAY'S CURRENCY?

   $400.

   $10,000 (in 2020 dollars).

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ANSWER KEY

HANDOUT #4

REFLECTION

1. WHY IS THE CONSTRUCTION OF THE TRANSCONTINENTAL RAILROAD ARGUABLY ONE OF THE UNITED STATES' GREATEST TECHNOLOGICAL ACHIEVEMENTS?

   Track was laid over 2,000 miles of rugged terrain.

2. PRIOR TO THE TRANSCONTINENTAL RAILROAD, HOW DID PEOPLE HAVE TO CROSS THE COUNTRY?

   Stagecoach.
   By sea around the tip of South America.
   By sea across the Isthmus of Panama and north by sea.

3. WHERE WAS THE GOLDEN SPIKE HAMMERED INTO THE FINAL TIE?

   Promontory Summit, Utah.

4. HOW LONG DID IT TAKE TO BUILD THE TRANSCONTINENTAL RAILROAD?

   6 years.

5. HOW WERE PLAINS INDIANS VIEWED BY THE RAILROAD'S BUILDERS?

   Generally, they were seen as obstacles and killed or driven off the land.

6. WRITE A PARAGRAPH EXPLAINING HOW THE RAILROAD HAD A PROFOUND EFFECT ON AMERICAN LIFE:

   • Added to American vocabulary.
   • Led to the division of the nation into four stand time zones.
   • Founding of many of the towns on the Great Plains.
   • Passengers and freight could travel much more quickly.
   • Settlers rushed to settle the frontier.
   • Built American faith that anything could be accomplished.

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LEARNING EXTENSIONS:

Research a state or town along the Transcontinental Railroad.
Discover how it was founded, grew, and changed as a result of the railroad.

Make your own map of possible Transcontinental Railroad routes using Library of Congress maps for inspiration.

Research further information about Thomas Hills' painting, "Last Spike."

Research the history of the Chinese, German, or Irish immigrants who helped build the railroad.

Research contemporary engineering projects such as the Trans-Siberian Railway, the Panama Canal, or the Suez Canal.

Research the economics of the railroad. For example, how much was the total cost of construction? How much would that be in today's currency? How does the cost compare to recent engineering projects such as the building of the interstate freeways.

Research the Crédit Mobilier Scandal.

Research the Homestead Act (1862).

Create a timeline of the Transcontinental Railroad.

Write a newspaper as if you were a journalist attending the driving of the last spike.
Remember to include the who, what, when, where, why and how in the first paragraph(s).
Use your words to convey the scene taking place. Include a few quotes from some of the people at the scene.

ESSAY OPTIONS:

- Using student handout #2 "Effects of the Transcontinental Railroad," write a five-paragraph essay outlining the way migration, immigration, and commerce were impacted by the Transcontinental Railroad. Use at least two pieces of evidence for each category from *America: This is US* or the primary sources provided.

- Do one of the research projects above and write a five-paragraph essay demonstrating the knowledge you gained. For instance, comparing and contrasting the experience of different immigrant groups who built the railroad or comparing and contrasting the Transcontintental Railroad with other contemporary engineering projects.

ADDITIONAL PRIMARY SOURCES

CENTRAL PACIFIC RAILROAD PHOTOGRAPHIC HISTORY MUSEUM

- Report of the House of Representatives inquiry into the Credit Mobilier Scandal, Jan 6, 1873
http://cprr.org/Museum/Credit_Mobilier.html
- Extensive online resource for primary source materials:
http://cprr.org/Museum/index.html#Read
- Bibliography of print materials available:
http://cprr.org/Museum/Books/index.html

THE LIBRARY OF CONGRESS

- Collection of Railroad Maps from 1828 – 1900
https://www.loc.gov/collections/railroad-maps-1828-to-1900/about-this-collection
- Link to The New York Sun's exposé of the Crédit Mobilier scandal
https://chroniclingamerica.loc.gov/lccn/sn83030272/1872-09-04/ed-1/seq-1/

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THE LAST SPIKE

INTRODUCTION

Building the great railways of America involved land speculation and engineering. In this game, players *cooperate* to build a continuous railway from *St. Louis* to *Sacramento*. Each player also *competes* to accumulate the most money from land speculation before the *last spike* is laid.

The game can be played by 2-6 players, but works best with 3-5 players. Average playing time is 45 minutes.

GAME EQUIPMENT

Gameboard – Shows 9 cities and the 12 routes that link them. Each route has 4 track spaces.

Railway Track – 48 wooden tiles represent railway track sections. Four tiles fit between each two cities. Each tile has a unique letter code and number to match a gameboard space.

Cards – Deck of 45 land cards, 5 each of 9 cities. Sort the land cards into 9 piles of five (one per city), "Land Ø" on top, then cheapest to most expensive ranked below.

Game Money – Currency chips: $1,000 (White), $5,000 (Red), $10,000 (Blue).

PREGAME

One player is chosen as banker. The banker gives each player, including himself, a sum of money that varies with the number of players:

2 Players, $60,000 each
3 Players, $50,000 each
4 Players, $40,000 each
5 Players, $35,000 each
6 Players, $30,000 each

Place the 48 railway tiles ***face-down*** and mix together. Each player draws one tile. The tile closest to A1 has the first turn (A3 is closer to A1 than B1). Replace the tiles in the pool and remix. Then each player draws four tiles, standing them upright to hide their identity from the other players.

2-Player Game: At the start of play, draw one tile sight unseen from the mix and place aside.

GAME TURNS

The game starts with the first player and proceeds ***clockwise*** around the table. Each turn:

- Lay a track tile on the map; ***all*** players collect Payouts if any.
- Buy ***one*** land card (optional)
- Draw one new track tile

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LAYING TRACK



The track tiles contain a unique letter and number, one for each space on the mapboard. The tile shown above is "A3", played in the *St. Louis – Omaha* route. Cost to play this tile is $3000.

Each turn begins by playing one track tile ***next*** to a city, or next to any existing tile. Otherwise, you ***must*** lay track where possible at ***double*** cost.

Track cost varies to reflect terrain such as bridges and tunnels. The bank must be paid this cost to play that tile. If you cannot afford to play a track tile you must raise cash by selling land.

Free Land Grants

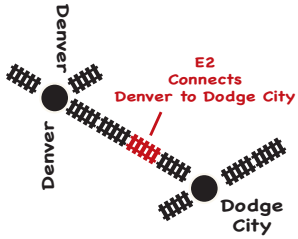
Each city has one ***Free*** land grant, noted as Land Ø. The ***first*** player to play track ***next*** to a city gets this free land. That is, to get the Free land for Omaha, play A4, D1, or C1.

Players ***cannot*** buy land for a city until its free land has been claimed.

Players getting free land ***may NOT also*** buy another land card that turn.

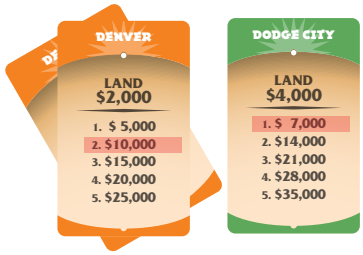
PAYOUTS

When all four (4) track sections between two cities have been built, ***every owner*** of the two connected cities collects a payout ***from the bank.*** That is, if the *Dodge City – Denver* route is completed, ***all players*** owning land for these two cities are paid.



The amount paid to ***each*** player depends on the number of land cards held for the two cities. If you own two land cards of the same city, collect the amount indicated by the number "2".

EXAMPLE*: if you own 2 Denver and 1 Dodge City, collect $10,000 for Denver and $7,000 for Dodge City.*



BUYING LAND



Playing a track tile allows you to buy ***any*** **ONE** Land, provided that city has had its free land claimed. Choose the city, pay the "Land" price noted ($7,000 for *St. Louis* shown) and place it ***face-up*** in front of you. ***IMPORTANT:*** *Ownership of land is public knowledge. Land cards must remain* ***face-up*** *on the table. Money can be hidden.*

End your turn by drawing a track tile.

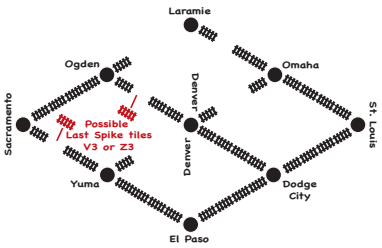
SELLING LAND

You may ***not*** sell or trade land to other players, or borrow money from other players. If you cannot pay for laying a track tile, you ***must*** sell land to the bank for ***half cost*** (round-up). Hence, land costing $5,000 is sold to the bank for $3000. Two or more land cards may have to be sold to raise sufficient cash to play. If you cannot raise enough cash to play you are bankrupt. Give any unplayed tiles, monies, and land to the bank for reuse, except bankrupt Free land is removed from play.

IMPORTANT: *The bank will* ***only*** *buy land to allow a railway tile to be played. The bank will* ***not*** *buy a Free Land property, nor buy any city that has made all its possible payouts. Players selling land get a normal turn.*

THE LAST SPIKE

The game ends when the ***last spike*** is played. This is the track tile that forms a ***continuous*** railway from *St. Louis* to *Sacramento*. Playing the *last spike* earns you a bonus of $20,000 from the bank. See diagram.



Winning the Game

After the *last spike* is played, the payout for the two connected cities is collected. The player with the most ***cash*** then wins the game. Land value is ***not*** counted, just cash. If required, break a tie with the highest total ***cost*** of land cards held.

CREDITS

Based on a game published by *Gamma Two* in 1976.

Game Design: Tom Dalgliesh
Developer: Grant Dalgliesh
Art/Graphics: Karim Chakroun
Thanks to all of our playtesters!

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